

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 1. (original) A method for measuring residual chromatic dispersion in an optical
2 transmission system, the method comprising the steps of:

3 introducing a predetermined amount of chromatic dispersion at the receive end of
4 the system;

5 measuring a bit error rate for the system corresponding to the predetermined
6 amount of chromatic dispersion;

7 iterating the introducing and measuring steps until the bit error rate is a minimum
8 over all measured bit error rates;

9 wherein the residual chromatic dispersion in the optical transmission system is
10 represented by a complement of the predetermined amount of chromatic dispersion at
11 which the minimum bit error rate is achieved.

1 2. (original) The method as defined in claim 1 wherein step of iterating is responsive to
2 the bit error rate in the measuring step and includes selecting a new predetermined
3 amount of chromatic dispersion for the introducing step.

1 3. (original) The method as defined in claim 2 wherein the step of selecting further
2 includes controlling selection of the predetermined amount of chromatic dispersion in a
3 manner to produce a minimum bit error rate.

1 4. (original) The method as defined in claim 1 further including the step of compensating
2 at least some portion of the residual chromatic dispersion in the optical transmission
3 system by selecting a compensating amount from a chromatic dispersion range including

4 0 ps/nm through and including the predetermined amount of chromatic dispersion at
5 which the minimum bit error rate was achieved.

1 5. (original) The method as defined in claim 4 wherein step of iterating is responsive to
2 the bit error rate in the measuring step and includes selecting a new predetermined
3 amount of chromatic dispersion for the introducing step.

1 6. (original) The method as defined in claim 5 wherein the step of selecting further
2 includes controlling selection of the predetermined amount of chromatic dispersion in a
3 manner to produce a minimum bit error rate.

1 7. (original) Apparatus for measuring residual chromatic dispersion in an optical
2 transmission system, the apparatus comprising:

3 a dispersion compensator for introducing a predetermined amount of chromatic
4 dispersion at the receive end of the system;

5 a bit error rate test element for measuring a bit error rate for the system
6 corresponding to the predetermined amount of chromatic dispersion;

7 a control element coupled to said compensator and said test element for adjusting
8 said compensator to a new predetermined amount of chromatic dispersion in order to
9 reduce the bit error rate for the system;

10 wherein at least a portion of the residual chromatic dispersion in the optical
11 transmission system is represented by a complement of the predetermined amount of
12 chromatic dispersion at which the reduced bit error rate was achieved.

1 8. (original) The apparatus as defined in claim 7 wherein the control element adjusts the
2 compensator to a new predetermined amount of chromatic dispersion in order to
3 minimize the bit error rate for the system, the residual chromatic dispersion in the optical
4 transmission system being represented by a complement of the predetermined amount of
5 chromatic dispersion at which a minimum bit error rate is achieved.

1 9. (original) The apparatus as defined in claim 8 wherein the control element adjusts the
2 dispersion compensator to a compensating amount of chromatic dispersion selected from
3 a chromatic dispersion range including 0 ps/nm through and including the predetermined
4 amount of chromatic dispersion at which the minimum bit error rate was achieved.

1 10. (new) Apparatus for measuring residual chromatic dispersion at an intermediate
2 location in an optical transmission system, the apparatus comprising:

3 a dispersion compensator for introducing a predetermined amount of chromatic
4 dispersion to an optical signal from the intermediate location;

5 an optical receiver for receiving the optical signal comprising the predetermined
6 amount of chromatic dispersion;

7 a bit error rate test element for receiving at least a portion of a signal output from
8 the optical receiver and measuring a bit error rate at the intermediate location for the
9 system corresponding to the predetermined amount of chromatic dispersion;

10 a control element coupled to the compensator and the test element for iteratively
11 adjusting the compensator to a new predetermined amount of chromatic dispersion until
12 the bit error rate test element measures a minimum bit error rate;

13 wherein the residual chromatic dispersion at the intermediate location in the
14 optical transmission system is represented by a complement of the predetermined amount
15 of chromatic dispersion at which the minimum bit error rate is achieved.

1 11. (new) A method for measuring residual chromatic dispersion at an intermediate
2 location in an optical transmission system, the method comprising:

3 introducing a predetermined amount of chromatic dispersion to an optical signal
4 from the intermediate location using a dispersion compensator;

5 directing the optical signal comprising the predetermined amount of chromatic
6 dispersion to an optical receiver;

7 directing at least a portion of a signal output from the optical receiver to a bit error
8 rate test element;

9 measuring a bit error rate corresponding to the predetermined amount of
10 chromatic dispersion using the bit error rate test element;
11 iteratively adjusting the compensator to introduce a new predetermined amount of
12 chromatic dispersion and measuring the bit error rate until a minimum bit error rate is
13 achieved;
14 wherein the residual chromatic dispersion at the intermediate location in the
15 optical transmission system is represented by a complement of the predetermined amount
16 of chromatic dispersion at which the minimum bit error rate is achieved.